NATIONAL BUREAU OF STANDARDS REPORT

5751

MEETING OF EXPERTS ON FIRE RESEARCH
COMMITTEE ON APPLIED RESEARCH
EUROPEAN PRODUCTIVITY AGENCY

by
A. F. Robertson

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

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A. F. Robertson

for
National Science Foundation
(Letter of January 13, 1958)

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INTRODUCTION

A meeting of Experts on Fire Research was held at the Chateau de la Muette on Monday and Tuesday, January 20 and 21, 1958. Delegates of nine countries were present and a representative from one additional country (Austria) indicated regret that an official delegate could not attend. In addition, the Chairman, Mr. Clarke, indicated that he had received communications from both Australia and Canada indicating their interest in the meeting. A list of delegates is included in the Appendix.

HIGHLIGHTS OF MEETINGS

The meeting was called to order by Dr. King, Deputy Director of the European Productivity Agency, who presented an excellent review of the history of OEEC and the development of EPA. He emphasized the need of European countries to form an effective cooperating body if they were to keep pace with American and Russian technical advances. He challenged the group to make their good intentions evident by deeds. He concluded his talk with a request that the delegates accept Mr. Clarke as Chairman of the meeting. This suggestion was accepted without question.

Mr. Clarke opened the meeting with a request that each delegate describe briefly the fire research activities in progress in his country. This was done in the following order:

Germany - It seemed evident that Dr. Schubert was not in a position to speak for Germany as a whole. He, himself, was from Hamburg in charge of a laboratory which was chiefly concerned with marine construction. At a later time during the meeting a letter from a laboratory in Karlsruhe was noted which indicated regret at their inability to attend.

Switzerland - Mr. Gretener indicated interest in cooperating with the proposed activities but said that no central fire research laboratories were available nor would be for 3 or 4 years.

Netherlands - Fire research activities are rather well centralized under Dr. van Hoogstraten's direction at TNO. They are concerned with ignition, spread, extinguishment and confinement of fires. They agree to a cooperative attack on problems.

Sweden - Mr. C. Möller indicated that fire protection work was not directly state controlled. Their group had excellent liaison with other Scandinavian countries. One example of this involved standardization on a spread of flame test method and group study of this problem.

Sweden was concerned with problems of use of plastics in buildings and fire in underground structures. It was common to find buildings of 20 stories height with 6-10 stories underground. How to fight fires underground seemed to present a problem.

Norway - Mr. Stroemsheim indicated that their problems were quite similar to those of Sweden. Norway was concerned, however, with fires aboard ships. They have completed some research on chimney problems. Most of their fire studies should be considered as developmental testing.

United States - Dr. Robertson presented a brief outline of organizational situation in the States. Excerpts were furnished from the NFPA publication "Research on Fire" to provide an indication of the objectives or fields of interest of some twenty odd organizations active in the fire problem. A distinction was made between those laboratories having primary interest in the problem, and organizations which would perform studies on request.

France - Each of the four delegates spoke. Fire studies relative to building problems were under Col. Fackler's direction at CSTB. Col. Chanteaud represented Civil Defense activities; Mr. Etienne was largely concerned with fire extinguishment problems such as those involved in aircraft crash fires. He is associated with the Laboratories du Feu, Champs sur Marne. Col. Heywang was concerned with fire safety in public buildings, standardization of equipment for which has proceeded well since '46.

Italy - Here national responsibility is located in the Ministry of the Interior. They have five experimental laboratories and are concerned with problems presented by high buildings, ship, and airport fires.

United Kingdom - Mr. Clarke presented a brief review of current problems being considered in Britain. Three problems emphasized were:

Statistics - Emphasis was placed on the usefulness of statistics in research on study of fires. (Britain is to the writer's knowledge the only country at present making real use of statistical analysis of fire loss data for the purpose of directing fire research activities. This activity has been underway over a period of about 10 or more years and they are finding the results of increasing value.)

Ships - The statement was made that the use of fire resistant bulkheads had not been justified because so often fires occurred at dock when doors were open, while there was no record of their usefulness during fires at sea. This seems worth studying further.

Foam - Emphasis was placed on the need to increase by at least 1000 times the efficiency of pumping foam. Perhaps he meant the capacity of foam units.

Research Method - Emphasis was placed on the need of new methods for study of fire problems.

Following lunch the meeting was reconvened and discussions were presented on each item of the agenda. In general there seemed to be agreement that each item was of interest and worthy of study. However, enthusiasm was not overwhelming and without encouragement from the Chairman, it seems doubtful that interest would have been unanimous.

SPECIFIC RECOMMENDATIONS DEVELOPED AT CONFERENCE

The following action was decided as desirable by those in attendance:

1. A document would be prepared and forwarded to the International Committee for Safety of Life at Sea for consideration at their meeting in 1960. This document would recommend that action be taken to compile statistics on fire losses aboard ships.

2. A questionnaire was prepared during the conference and will be circulated by the Secretary for the purpose of preparing a publication describing fire research laboratories in Europe. This will take a form somewhat similar to NFPA's publication "Research on Fire".

3. An attempt will be made to circulate on a semi-annual basis a resume of the fire research studies currently under way in the various countries..

COMMENTS ON MEETING

The following comments seem appropriate in connection with this meeting:

1. Feasability of recommendations

Items 1 and 2 are quite feasible from our point of view. We might cooperate in item 2 by supplying copies of the NFPA publication "Research on Fire". Item 2 will probably present a problem in countries with scattered research facilities. It seems rather evident that the value of such a reference source would far outweigh the inconvenience involved in its preparation.

Item 3 will present some problems. It is not now clear to what extent we are expected to participate. If such cooperation is expected there are several organizations which might be able to act in a liaison capacity. A recommendation of the best one for this purpose cannot now be made.

2. Recommended U. S. Actions

(a) To promote cooperation for interchange of information

Most of the nations represented look to Britain and the U. S. as leaders in the field of fire research. Because of this, continued representation and cooperation on committees of this type seems desirable. This could be implemented by cooperation in the specific recommendations of the conference as mentioned above.

The National Bureau of Standards will furnish each of the participating countries with a list of publications relating to fire research together with currently available reprints of technical papers in this field.

(b) In use of the conference discussions to improve fire research work in the U. S.

It becomes increasingly evident that the collection of fire loss statistics by the British provides them with a very valuable tool for direction of their activities in this field. There is no adequate collection of such statistics in our country. The NFPA effort in this field is not nearly detailed enough. The problem of state's sovereignty is a hindrance to collection of such data on a national scale. Nevertheless, it appears that it would be very profitable to attempt some such compilation of statistical data from representative states.

(c) Value to U. S. of meeting

There is little doubt that the exchange of information at meetings of this type is beneficial to us. Although we do maintain close contact with the British, the opportunity of first hand personal exchange of ideas is always stimulating. They are by far the most advanced in this field but many useful ideas were developed during discussions with other members of the conference.

APPENDIX

GROUPE D'EXPERTS SUR LA RECHERCHE EN MATIERE D'INCENDIE
MEETING OF EXPERTS ON FIRE RESEARCH

20-21 janvier 1958
LISTE DES PARTICIPANTS

ALLEMAGNE GERMANY	Dr. Ing. R. SCHUBERT See-Berufsgenossenschaft Hamburg Zipplehaus 5
FRANCE	J. FACKLER Chef de Service au Centre Scientifique et Technique du Batiment 4, avenue du Recteur Poincaré, Paris Lt. Colonel J. CHANTEAUD Service National de la Protection Civile Ministère de L'Intérieur 60, Bld. Gouvion St. Cyr, Paris Lt. Colonel R. HEYWANG Service Prevention Ministère de l'Intérieur 60, Bd. Gouvion St. Cyr, Paris Chef de Bataillon A. ETIENNE Service Etudes et Recherches Ministère de l'Intérieur 60, Bd. Gouvion St. Cyr, Paris
ITALIE ITALY	Dr. Ing. O. PIERMARINI Commandant les Sapeurs Pompiers Via Genova, 3 Roma Dr. Ing. A. BOLOCAN Consiglio Nazionale delle Ricerche Piazzale delle Scienze, 7 Roma
NORVEGE NORWAY	P. STROEMSHEIM Chief Inspector of Fire Services Norges Brannkasse Wergelandsveien, 1 Oslo

SUEDE SWEDEN	C. MÜLLER Managing Director of Svenska Brandskyddsföreningen (Swedish Fire Protection Association) Brunkebergstorg, 15 Stockholm C
PAYS-BAS NETHERLANDS	Dr. C. W. Van HOOGSTRATEN Director of the Institute for Fire Safety T.N.O. Lange Kleiweg, 5 Rijswijk Ir. W. E. EGGINK Deputy Chief Inspector of the Fire Fighting Force Oostduinlaan, 185 La Haye
ROYAUME-UNI UNITED KINGDOM	S. H. CLARKE (President) Director of the Fire Research Station Boreham Wood Nr. Elstree, Herts
SUISSE SWITZERLAND	P. BAUMANN Directeur de l'Etablissement d'assurance contre l'incendie du Canton de Bale-ville Marktgasse, 8 Bale M. GRETENER, Ing. EPF Directeur du Service de Prevention d'Incendie Nüchelerstrasse, 45 Zurich
ETATS-UNIS UNITED STATES	Dr. A. ROBERTSON Chief, Fire Protection Section U. S. National Bureau of Standards Washington 25, D. C. Dr. E. SCOTT USRO/ECON 2, rue St. Florentin Paris

Secrétariat:

Dr. A. KING	Directeur Adjoint A.E.P.
J. POGNAN	A.EP.
J. TURGEL	"

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U. S. DEPARTMENT OF COMMERCE
Sinclair Weeks, *Secretary*

NATIONAL BUREAU OF STANDARDS
A. V. Astin, *Director*

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its headquarters in Washington, D. C., and its major field laboratories in Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant reports and publications, appears on the inside front cover of this report.

WASHINGTON, D. C.

Electricity and Electronics. Resistance and Reactance. Electron Tubes. Electrical Instruments. Magnetic Measurements. Dielectrics. Engineering Electronics. Electronic Instrumentation. Electrochemistry.

Optics and Metrology. Photometry and Colorimetry. Optical Instruments. Photographic Technology. Length. Engineering Metrology.

Heat and Power. Temperature Physics. Thermodynamics. Cryogenic Physics. Rheology and Lubrication. Engine Fuels.

Atomic and Radiation Physics. Spectroscopy. Radiometry. Mass Spectrometry. Solid State Physics. Electron Physics. Atomic Physics. Nuclear Physics. Radioactivity. X-rays. Betatron. Nucleonic Instrumentation. Radiological Equipment. AEC Radiation Instruments.

Chemistry. Organic Coatings. Surface Chemistry. Organic Chemistry. Analytical Chemistry. Inorganic Chemistry. Electrodeposition. Gas Chemistry. Physical Chemistry. Thermochemistry. Spectrochemistry. Pure Substances.

Mechanics. Sound. Mechanical Instruments. Fluid Mechanics. Engineering Mechanics. Mass and Scale. Capacity, Density, and Fluid Meters. Combustion Controls.

Organic and Fibrous Materials. Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Organic Plastics. Dental Research.

Metallurgy. Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics.

Mineral Products. Engineering Ceramics. Glass. Refractories. Enameled Metals. Concreting Materials. Constitution and Microstructure.

Building Technology. Structural Engineering. Fire Protection. Heating and Air Conditioning. Floor, Roof, and Wall Coverings. Codes and Specifications.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics.

Data Processing Systems. SEAC Engineering Group. Components and Techniques. Digital Circuitry. Digital Systems. Analogue Systems. Application Engineering.

• Office of Basic Instrumentation

• Office of Weights and Measures

BOULDER, COLORADO

Cryogenic Engineering. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Gas Liquefaction.

Radio Propagation Physics. Upper Atmosphere Research. Ionospheric Research. Regular Propagation Services. Sun-Earth Relationships.

Radio Propagation Engineering. Data Reduction Instrumentation. Modulation Systems. Navigation Systems. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Radio Systems Application Engineering.

Radio Standards. Radio Frequencies. Microwave Frequencies. High Frequency Electrical Standards. Radio Broadcast Service. High Frequency Impedance Standards. Calibration Center. Microwave Physics. Microwave Circuit Standards.

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